

Salmonella Bacteria and Reptiles:

CLIENT EDUCATIONAL HANDOUT (revised April 2008)

Most, if not all, reptiles carry *Salmonella* bacteria in their intestinal tract and intermittently or continuously shed these bacteria in their feces. *Salmonella* bacteria usually do not cause any illness in reptiles, but can cause serious illness in people.

Salmonella bacteria are easily spread from reptiles to humans. People may become infected when they swallow the bacteria. This can happen when their hands become contaminated by touching a reptile, reptile feces, or a surface contaminated by a reptile. If the person does not wash their hands adequately before eating, preparing food or touching their face or mouth, the bacteria is then swallowed. For example, infants have become infected after drinking from bottles of infant formula that became contaminated during preparation. Infant formula contamination can occur due to people not washing their hands before preparing the formula, or the preparation area becoming soiled when contaminated cage furniture, food bowls or even the reptile itself is placed on the counter subsequently contaminating the area. For *Salmonella* bacteria to spread from reptiles to humans, the bacteria must be ingested. Therefore, simply touching or holding a reptiles will not result in spread of bacteria unless something contaminated with reptiles feces or the reptile itself is placed in the mouth.

Most *Salmonella* infections in humans result in a mild, self-limiting illness characterized by diarrhea, fever, and abdominal cramps. However, the infection can spread to the bloodstream, bone marrow or nervous system, leading to severe, and sometimes fatal, illness. Such severe infections are more likely to occur in infants and in individuals whose immune system is compromised (for instance, bone marrow transplant recipients, persons with diabetes mellitus, persons infected with the human immunodeficiency virus, and chemotherapy patients).

Unfortunately, *Salmonella* bacteria cannot be eliminated from the intestinal tract of reptiles. Administration of antibiotics to eliminate these bacteria has been unsuccessful and may result in emergence of *Salmonella* bacteria that are resistant to antibiotics. Attempt to raise or identify reptiles that do not carry *Salmonella* bacteria have also been unsuccessful; therefore, bacterial culture of stool samples in an attempt to identify reptiles that are not carrying *Salmonella* bacteria is not recommended and a negative culture does not rule out *Salmonella* bacteria in the animal.

Fortunately the spread of *Salmonella* bacteria from reptiles to humans can be easily prevented by using the following routine precautions:

- Always wash your hands with hot, soapy water after handling reptiles, reptile cages and equipment, and the feces of reptiles.
- Do not allow reptiles to have access to the kitchen, dining room, or any other area in which food is prepared or eaten. Also, do not allow reptiles to have access to bathroom sinks and tubs or to any area where infants are bathed. Consider keeping your reptiles caged or limiting the parts of the house where reptiles are allowed to roam free. Always wash your hands after coming into contact with any area where reptiles are allowed to roam free.
- Do not eat, drink, or smoke while handling reptiles, reptile cages, or reptile equipment. Do not kiss reptiles or share food or drink with them.
- Do not use the kitchen sink, kitchen counters, bathroom sinks or bathtubs to bathe reptiles or to wash reptile cages, dishes or aquariums. Reptile owners may wish to purchase a plastic basin or tub in which to bathe or swim their reptiles. Waste water and fecal material should be disposed of in the toilet instead of the bathtub or household sink.
- The Centers for Disease Control and Prevention recommends that children less than five years of age avoid contact with reptiles and those households with children less than five years of age not own reptiles. The Association of Reptilian and Amphibian Veterinarians encourages reptile owners with young children to discuss steps to minimize risks associated with owning reptiles with their reptiles' veterinarian and their physician. Children should be supervised when they are handling reptiles to ensure that they do not place their hands or objects that a reptile has contacted in their mouths. Reptiles should not be kept in childcare centers.
- Immunocompromised persons should avoid contact with reptiles.
- Follow instructions from your reptile's veterinarian concerning proper diet and environment for your reptile. Healthy reptiles living in proper environments are less likely to shed *Salmonella* bacteria.

Information in this handout is not meant to discourage reptile ownership. With a few exceptions (for example, infants or immunocompromised individuals), most people have a low risk of acquiring salmonellosis from reptiles, but this risk can be reduced even further by following simple precautions. Reptiles can be safely kept as pets, but reptile owners should be aware of the methods for reducing their risk of acquiring *Salmonella* bacteria from their reptiles.

This handout was developed by the Association of Reptilian and Amphibian Veterinarians in collaboration with the Centers for Disease Control and Prevention and is intended for informational purposes only; please seek advice from your physician and your reptile's veterinarian if questions or problems occur. [Guidelines for Veterinarians](#) are also available. Revised 10 April 2009 Beth Bicknese DVM, MPVM)